ORIGIN AND IMPACT OF MUSIC AND DANCE ON HUMAN DEVELOPMENT*

A. Nityagopal

Music moves us, and we know not why;
We feel the tears, but cannot trace their source.
Is it the language of some other state,
born of its memory! For what can wake
the soul's strong instinct of another world like music?

–Latitia Elizabeth Landon.

Introduction

One of the most fascinating questions that can be put to science is the question as to the origin of the present state of things. Evidently it is the Man who is the most outstanding product of evolution. But why? What made it so? Man formed groups and societies to dwell. Why does he entertain such strong desire to live in groups? The answer to this instinct is little known. Science, like everything else that Man has created, exists, of course, in turn to gratify certain human needs and desires. For development, curiosity is the main driving force in the Man. How and when does Man think to solve the problems around him? Here again the dualism of mind and matter arises. Einstein emphasized that the creative part of the work or solution for a problem occur while the scientist is involved in non-scientific activity. Many eminent scientists have recalled that most of their best scientific ideas came to them during casual walks or while listening to music or seeing the visual mimicry (dance). Then from where the music and dance have originated. Shakespeare had the vision and insight of a seer when he observed that there was not the smallest orb in heaven but in its motion made music and so long as the muddy vesture of decay enclosed our soul we could not hear it. This is what exactly our sages[1] referred to as "anāhata".

---

*In this article main emphasis is laid on Human psychology and physiology to understand Human Development.

Its inherent nature of man that, at the time of fear or anxiety, he feels secure and collected. In situations of depression he feels a great relief by hearing or playing music. An interesting correlation could be built-up for this instinct, when the child is in the mother's womb[2] for a period of nine months, it constantly hears every heart beat of hers (mother), and gets acclamatised to the sound. Hence, in later part of his life also man feels secure on hearing music. Hence music is essential for the mankind.

Note on Origin of Music and Dance

Examining the origin of music at the primitive level we find the roots of music in dominance displays. In Wolves, howling is characterised as a territorial call, an aggressive signal. The same path of thought suggests that musical instruments such as drums, horns, trumphets, etc. emphasize dominance. To trace the origin of music one has to go far back into the times when the new mankind was casting aside its animality and was beginning to struggle towards an unknown but fuller and civilized life. Thus, in the story of music is recorded the progress of human thought and the widening of man's imagination. Music primarily began with singing. Man, in his attempt to give an orderly shape to his voice, discovered two opposite and different ways of expression. Starting from cries denoting alarm, passion, pain and joy, the human vocal chord gradually learnt to produce imitative sounds which were mechanical in the beginning. The gradual development of the vocal acts originally involved the intellectual correlation of behaviour just as any other physiological processes.

The mute man, as he gradually began to articulate vocal sounds, soon found that like drum beats or claps they could also be used to draw attention or articulate rhythm. In this process he experienced that by the force of a change of pitch in the vocal sounds some of them could not only be made to stand out from the others but could also be made more variable. It is seen in the history, even before the languages have fully developed, the people did sing or rather they found some note or notes to put them or compile them right on the road to sing-song music in which their impules found expression through the voice.

Music can develop, provided the individual's response system is sensitive to impact of sound. Hence music seems to be based on highest order of sensitivity of individuals to sound, so that the sound thas a marked immediate effect on the physiology of the body.

The regular motion of the heart and lungs reinforced the sense of rhythm[3] if it did not furnish the source of inspiration for it. And dance is but the response of the body as a whole to the natural instinct of the rhythm. With regard to the origin of dance, there is an old belief that in the early days when man depended on hunting for survival, at times he could not hunt any animal and his family was literally starving and after sometime he goes on searching for animal life and travels long distances and upon the mountains and at last he could see some animals and then in order to convey this news to his fellow beings he used some sort of signs, visual mimicry to explain about food availability at that region, and this is how the visual mimicry or dance has originated.

Impact on Human Physiology

It is a fact, that structure and function of the human body is maintained through exercise, without which it degenerates the functioning of human system. The periglacial hunters with exceedingly primitive and dangerous spears tackled the animals for their food, they were very agressive, armed with antlers, horns, sharp tusks, protected by tough hides. Then evolved the Cro-Magon and Neanderthal man who were top carnivores hunting large mammals. And since the gap or intervals between kills of big animals must have been so long that hunters would lose physical fitness and turn lethargic. Hence they promoted and adapted certain artificial activities such as playing the music (primarily durms) and dancing etc. Speaking from physiological point of view this sort of pleasure exercises enriches the speed of motor responses by enhancing the speed of signal transmission along nerve fibers and in terms of biochemical functioning this activity increases the individual's ability to liberate free fatty acids from its fat deposits to fuel muscular work.

There are basically two ways to consider the impact of music on human biology or development: (1) Music arouses as indicated by elevated pulse rate, muscle tonus, blood pressure, blood-glucose levels etc. (2) Rhythmic, soft and familiar music produces opposite physiological responses, as it relaxes and at times can lead to sleep; it relieves hypertension.

Music together with dance has effect which can be better answered if we know why cooperation evolved in humans. Co-operation was prerequisite in olden days for successful hunting of large dangerous species for the very survival of the man. Thereby cooperation is maximized by synchronizing the motivations and behaviour. However, humans unlike wolves and lions, do not sing prior to the hunt, instead preferred to do so after the hunt.

Music simultenously aids the function of organ system within the body and definitely has a regulatory effect on physiological processes such as digestion, circulation, metabolism etc. Actually rhythm enhances muscular tonus and most likely creates a desire for physical activity. Our bodies are capable of following music to a remarkable extent that promotes growth, physical fitness etc.

Impact on Psychological Factors

There is an unexplored, highly scientific field of musical therapy, that is, the effect of musical sounds and ragas[4] on plants, and in curing human ailments. A number of successful experiments have been made on the growth of plant life by playing particular combinations of sounds and also particular ragas. Health cure with the help of classical ragas with its particular emotional sentiment is little experimented.

> *"Psychologists have found that music does*
> *things to you whether you like it or*
> *not. Fast tempos invariably raise your*
> *pulse, respiration and blood pressure;*
> *slow music lowers them",*

The above quotation of Doron Kemp Antrin, depects the tremendous beauty of the influence of music on human physiology and psychology. Music acts to dull pain (mental) and put or transform a person into a mild trance. Hence I want to emphasize that music which has a tremendous impact on human biology is mostly adaptive. It makes us clear the genotype-environment (GE) interaction. In medicine, music can be of use to reduce dental pain, the pain of surgery or of child birth. In certain cases children deprived of parental affection or proper home environment show the failure towards interest in music, particularly classical music. William Green's quotation says "Music is a friend of labour; it lightens the task by refreshing nerves and spirit". It makes us clear the effect of music on the labourer i.e., worker.

Impact of Music on other Factors

Certain emotive effects of music are those ancient legends that speak of setting a place aflame by singing the Deepak raga, or bringing down rains by singing the Megh Mallhar raga may not, after all, prove entirely imaginary. A few reports indicate that playing music while milking the cattle results in increased amount of milk. Music is also said to have impact on agricultural production. It is said that playing music in the field at the time of flowering stage of the crop has some influence on the ultimate yield. Considering from the view of bird-pest management certain experiments have been conducted at the All India Co-ordinated Center for Bird Pest Management, at the Andhra Pradesh Agricultural University Campus, Hyderabad. They record the distress calls of birds and play the tape in the field which results in scaring away the birds from damaging the crop. What more? Distress calls have been exploited to keep-off pest birds from damaging the crops. Thus, music has economic implications too.

In the present day scientifically and technologically advanced world made man to lead a mechanical life, dwelling in polluted cities. Hence, for this mankind there is a great need and appreciation of music and dance. I conclude with the quotation of Christian Nestell Bovee, which emphasizes the need and impact of music on human development as a whole:

> *"Music is the fourth great material*
> *want of our nature—first food,*
> *then raiment, then shelter, then music".*

ACKNOWLEDGEMENTS

The author wishes to thank Sri Akshya Kumar Chakravarthy, Doctoral Student, Punjab Agricultural University, Ludhiana, Punjab, for his co-operation and suggestions during the preparation of this article. And Lucifer Madhusudan Singh, for discussions on this topic many evenings.

REFERENCES

Abraham, G.: A Hundred Years of Music, Duckworth, London, 1949.
Agranoff, B.W. : Memory and Protein Synthesis. *Sci. Am.* 216(6), 115-122 (1967).
Alexander, R.D. : The evolution of social behaviour. *Arm. Rev. Ecol. Syst* 5, 325-383 (1974).
Anderson, E. : Plants, Man and Life. Berkeley, Univ. California, Press, 1952.
Barnett, S.A. : Instinct and Intelligence. London : Mac Gibbon and Kea, 1967.
Bonavia, F., "Verdi" in The Heritage of Music, Vol. II, ed. Hubert J. Foss. Oxford Univ. Press, 1927, 1951.
Clarke, J.G.D. : World Prehistory Cambridge : Cambridge Univ. Press (2nd ed.), 1969.
Colles, H.C. : The Growth of Music. Oxford Univ. Press. London. 1959.
Cravioto, J., De Licardie, E.R. : Nutrition and behaviour and learning. In : World Review of Nutrition and Dietetics, Vol. 16. Baurne, G.H. (ed). New York : Karger (1973).
Cunningham, M. : Intelligence : Its Organization and Development. N.Y. Acad. Press, 1972.
Galbraith, J.K. : The Affluent Society. N.Y. : Houghton Mifflin, 1958.
Garn, S.M.: Culture and the Direction of Human Evolution. Human Biol. 35 (3), 221-236 (1963).
Gaston, E.T. (ed) : Music in Therapy, New York : Macmillan, 1968.
Glickman, S.E., Sroges, R.W. : Curiosity in Zoo Animals' Behaviour, 27, 151-188 (1966).
Goodall, J. van Lawick : In the Shadow of Man, London Calling 1971.
Hebb, D.O. : The Nature of Fear. *Psy. Rev.* **53**, 259-297 (1946).
Henry, F.M. Specificity vs. generality in learning motor skills. *Proc. Coll. Phys. Educ. Assoc.* 126-128 (1958).
Hinkle, L.E. : Studies of human ecology in relation to health and behaviour. Bio Science Aug., 517-520 (1965).
Hulse, F.S. The Human Species : New York : Random House, 1963.
Juan Mascavo. The Bhagavad Gita (Translation from Sanskrit to English). Penguin Classics, England, 1962.

Keeley, K. : Prenatal influences on behaviour of offspring of crowded mice. Science **135,** 44 (1962).

La Barre, W. : The Ghost Dance : The Origin of Religion. New York : Doubleday Delta, 1970.

Landormy, Paul. : A History of Music Scribner's, New York. 1934.

Maslow, A.H. : Motivation and Personality. New York : Harper, 1954.

Parry, C. Hubert. : The Evolution of the Art of Music, Appleton, New York, 1930.

Schumacher, E.F. : Small is Beautiful, N.Y. : Harper and Rao (1973).

Smith, H.C. : Music in relation to employer attitudes, piece work production and industrial accidents. *App. Psy. Mung.* **14,** 1-59 (1947).

Smith, H. : Man and his Gods. N.Y. Grosset and Dunlap (1952).

Vishnu Dass Shirali. Sargam : An introduction to Indian music. Abhinav Pub., New Delhi, 1977.

Zweig, S. Tides of Fortune, Viking, New York, 1936.